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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/821,148	04/08/2004	Cary Lee Bates	ROC920030386US1	9493
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Robert R. Williams IBM Corporation Dept. 917 3605 Highway 52 North Rochester, MN 55901-7829				
EXAMINER				
DAO, THUY CHAN				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/821,148

Applicant(s)

BATES ET AL.

Examiner

Thuy Dao

Art Unit

2192

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2008 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-8508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This action is responsive to the amendment filed on March 13, 2008.
2. Claims 1-20 have been examined.

Response to Amendments

3. In the instant amendments, claims 1-20 have been amended.
4. The 35 USC §101 rejection over claims 9-12 is withdrawn in view of Applicants' amendments.

Specification

5. The specification is objected to because of minor informalities.

In page 1, Attorney Docket number should be replaced by US Patent Application number.

Acronyms should be spelled out at the first appearance in the specification (e.g., page 1, "EDVAC"; page 10, "DASD").

Appropriate correction is requested.

Claim Objections

6. Claims 9-12 are objected to because of minor informalities. In the instant amendments, Applicants amended claims 9-12 to obviate the 35 USC section 101 rejection.

After further consideration, claim 9, the phrase in line 1 is considered to read as -
-A computer-readable storage medium ...- -.

Appropriate correction is requested for claims 9-12.

Response to Arguments

7. Applicants' arguments have been considered but are moot in view of the new ground(s) of rejection. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action

Claim Rejections – 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,587,967 to Bates et al. (art made of record, hereafter "Bates") in view of US Patent Publication No. 2003/0074650 A1 to Akgul et al. (art made of record, hereafter "Akgul").

Claim 1:

Bates discloses a *method comprising:*

saving a definition of a region in a program bounded by an entry breakpoint and an end breakpoint (e.g., FIG. 4, block 66-76, col.6: 15-36; FIG. 8, field 150e, col.8: 37-65),

wherein the entry breakpoint is executed conditionally (e.g., FIG. 5, block 102/YES and block 106, col.7: 27-52);

saving a definition of a scoped breakpoint within the region (e.g., FIG. 4, block 56/YES and block 60/NO, col.6: 1-36; FIG. 2, item 32, col.5: 39-48);

if a thread that executes an instance of the program encounters the entry breakpoint, saving an identifier of the thread (e.g., FIG. 5, block 102/YES and block 104, col.7: 36-59; FIG. 8, filed 150j, col.8: 57-65);

if the thread encounters the scoped breakpoint within the region, halting execution of the thread that encountered the scoped breakpoint (e.g., FIG. 3, block 96/NO and block 122, col.7: 12-27; FIG. 6, col.8: 16-28).

Bates does not explicitly disclose other limitations. However, in an analogous art, Akgul further discloses:

if the thread encounters the scoped breakpoint within the region, determining whether the identifier was saved in response to the thread that executes the instance of the program encountering the entry breakpoint (e.g., [0053] and [0056]);

if the identifier was saved in response to the thread that executes the instance of the program encountering the entry breakpoint and the scoped breakpoint was encountered by the thread, halting execution of the thread that encountered the scoped .breakpoint (e.g., FIG. 10, [0055]-[0056]); and

if the identifier was not saved, the thread that executes the instance of the program did not encounter the entry breakpoint, and the scoped breakpoint was encountered by the thread that executes the instance of the program, allowing execution of the thread to continue after the scoped breakpoint was encountered without giving control to a user (e.g., [0053]-[0056]).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Akgul's teaching into Bates' teaching. One would have been motivated to do so to provide an efficient and flexible debugging mechanism and differentiate between the operating system threads or processes by using the detailed state information about the OS internals as suggested by Akgul (e.g., [0016] and [0019]-[0020]).

Claim 2:

The rejection of claim 1 is incorporated. Bates also discloses *after the thread encounters the end breakpoint, removing the identifier of the thread that was saved* (e.g., col.6: 1-49; col.7: 28 – col.8: 5)

Claim 3:

The rejection of claim 2 is incorporated. Bates also discloses *allowing execution of the thread to continue upon the thread encountering the end breakpoint without giving control to the user* (e.g., col.3: 36 – col.4: 24; col.8: 29-65).

Claim 4:

The rejection of claim 3 is incorporated. Bates also discloses *allowing execution of the thread to continue upon the thread encountering the entry breakpoint without giving control to the user* (e.g., col.2: 41 – col.3: 4; col.5: 7-54).

Claim 5:

Bates discloses *a apparatus comprising:*

means for saving a definition of a region in a program bounded by an entry breakpoint and an end breakpoint (e.g., FIG. 4, col.6: 15-36; FIG. 8, filed 150e, col.8: 37-65),

wherein the entry breakpoint is executed conditionally (e.g., FIG. 5, block 102 and 106, col.7: 27-52);

means for saving a definition of a scoped breakpoint within the region (e.g., FIG. 4, block 56 and 60, col.6: 1-36; FIG. 2, item 32, col.5: 39-48);

means for saving an identifier of a thread that executes an instance of the program if the thread that executes the instance of the program encounters the entry breakpoint (e.g., FIG. 5, col.7: 36-59; FIG. 8, field 150j, col.8: 57-65);

means for determining whether the thread encounters the scoped breakpoint within the region, halting execution of the thread that encountered the scoped breakpoint (e.g., FIG. 3, block 96/NO and block 122, col.7: 12-27; FIG. 6, col.8: 16-28).

Bates does not explicitly disclose other limitations. However, in an analogous art, Akgul further discloses:

means for determining whether the identifier was saved in response to the thread that executes the instance of the program encountering the entry breakpoint if the thread encounters the scoped breakpoint within the region (e.g., [0053] and [0056]);

means for halting execution of the thread that encountered the scoped breakpoint if the identifier was saved in response to the thread that executes the

instance of the program encountering the entry breakpoint and the scoped breakpoint was encountered by the thread that executes the instance of the program (e.g., FIG. 10, [0055]-[0056]); and

means for allowing execution of the thread to continue after the scoped breakpoint was encountered without giving control to a user if the identifier was not saved, the, thread that executes the instance of the program did not encounter the entry breakpoint and the scoped breakpoint was encountered by the thread that executes the instance of the program (e.g., [0053]-[0056]).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to combine Akgul's teaching into Bates' teaching. One would have been motivated to do so to provide an efficient and flexible debugging mechanism and differentiate between the operating system threads or processes by using the detailed state information about the OS internals as suggested by Akgul (e.g., [0016] and [0019]-[0020]).

Claim 6:

The rejection of claim 5 is incorporated. discloses *means for removing the identifier of the thread that was saved after the thread encounters the end breakpoint* (e.g., col.6: 1-49; col.7: 28 – col.8: 5).

Claim 7:

The rejection of claim 6 is incorporated. discloses *means for allowing execution of the thread to continue upon the thread encountering the end breakpoint without giving control to the user* (e.g., col.3: 36 – col.4: 24; col.8: 29-65).

Claim 8:

The rejection of claim 7 is incorporated. discloses *means for allowing execution of the thread to continue upon the thread encountering the entry breakpoint without giving control to the user* (e.g., col.2: 41 – col.3: 4; col.5: 7-54).

Claim 9:

Claim 9 is a computer-readable storage version, which recites the same limitations as those of claim 1, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the references teach all of the limitations of the above claim, they also teach all of the limitations of claim 9.

Claim 10:

The rejection of claim 9 is incorporated. Bates also discloses *allowing execution of the thread to continue upon the thread encountering the entry breakpoint without giving control to the user* (e.g., col.6: 1-49; col.7: 28 - col.8: 5).

Claim 11:

The rejection of claim 10 is incorporated. discloses *allowing execution of the thread to continue upon the thread encountering the end breakpoint without giving control to the user* (e.g., col.3: 36 – col.4: 24; col.8: 29-65).

Claim 12:

The rejection of claim 11 is incorporated. discloses *after the thread encounters the end breakpoint, removing the identifier of the thread that was saved* (e.g., col.2: 41 – col.3: 4; col.5: 7-54).

Claim 13:

Claim 13 is a computer system version, which recites the same limitations as those of claim 1, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the references teach all of the limitations of the above claim, they also teach all of the limitations of claim 13.

Claim 14:

The rejection of claim 13 is incorporated. Bates also discloses *after the thread encounters the end breakpoint, removing the identifier of the thread that was saved* (e.g., col.6: 1-49; col.7: 28 – col.8: 5).

Claim 15:

The rejection of claim 14 is incorporated. discloses *allowing execution of the thread to continue upon the thread encountering the entry breakpoint without giving control to the user* (e.g., col.3: 36 – col.4: 24; col.8: 29-65)

Claim 16:

The rejection of claim 15 is incorporated. discloses *allowing execution of the thread to continue upon the thread encountering the end breakpoint without giving control to the user* (e.g., col.2: 41 – col.3: 4; col.5: 7-54).

Claim 17:

Claim 17 recites the same limitations as those of claim 1, wherein all claimed limitations have been addressed and/or set forth above. Therefore, as the references teach all of the limitations of the above claim, they also teach all of the limitations of claim 17.

Claim 18:

The rejection of claim 17 is incorporated. discloses *configuring the computer to remove the saved identifier of the thread after the thread encounters the end breakpoint* (e.g., col.6: 1-49; col.7: 28 – col.8: 5).

Claim 19:

The rejection of claim 18 is incorporated. discloses *configuring the computer to allow execution of the thread to continue upon the thread encountering the end breakpoint without giving control to the user* (e.g., col.3: 36 – col.4: 24; col.8: 29-65).

Claim 20:

The rejection of claim 19 is incorporated. *discloses configuring the computer to allow execution of the thread to continue upon the thread encountering the entry breakpoint without giving control to the user (e.g., col.2: 41 – col.3: 4; col.5: 7-54).*

Conclusion

10. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication should be directed to examiner Thuy Dao (Twee), whose telephone/fax numbers are (571) 272 8570 and (571) 273 8570, respectively. The examiner can normally be reached on every Tuesday, Thursday, and Friday from 6:00AM to 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam, can be reached at (571) 272 3695.

The fax phone number for the organization where this application or proceeding is assigned is (571) 273 8300.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is (571) 272 2100.

Art Unit: 2192

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Thuy Dao/

Examiner, Art Unit 2192

/Tuan Q. Dam/

Supervisory Patent Examiner, Art Unit 2192